

## ABSTRACT

A flow monitoring system includes a first temperature-sensitive resistive device, thermally coupled to a first portion of a fluid transfer apparatus, for producing a first temperature-dependant voltage signal representative of the temperature of the fluid within the first portion of the fluid transfer apparatus. A first current control device, coupled to the first temperature-sensitive resistive device, controls a first current signal flowing through the first temperature-sensitive resistive device. A second temperature-sensitive resistive device, thermally coupled to a second portion of the fluid transfer apparatus, produces a second temperature-dependant voltage signal representative of the temperature of the fluid within the second portion of the fluid transfer apparatus. A second current control device, coupled to the second temperature-sensitive resistive device, controls a second current signal flowing through the second temperature-sensitive resistive device. A monitoring circuit monitors the first and second temperature-dependant voltage signals and produces an output signal representative of the volume of fluid passing through the fluid transfer apparatus.